

Proposed LCFS Verification Program

Industrial Strategies Division
Climate Change Program Planning and
Management Branch

June 2, 2016
Sacramento, CA

California Environmental Protection Agency
 **Air Resources Board**

Outline



- Stakeholder Feedback
- Verification Program Overview
- Preliminary Draft Regulatory Language
- Current Activities
- Rulemaking Schedule
- Next Steps
- Environmental Justice Advisory Committee

Stakeholder Feedback

Stakeholder Feedback (1)

- Recommend third-party audits be based on:
 - Risk assessment or cost-benefit consideration (80/20 approach)
 - Consider intermittent importers
 - Random/unannounced audits
- Clearly defined program requirements
 - Definition of material misstatement
 - Identification of program high risk areas
 - Established document sampling methodologies
 - Acceptable variance of audit findings
 - Two to three-year CI verification cycle

Stakeholder Feedback (2)

- Recommend verifications include:
 - Required site visits, no more frequently than annual
 - On-going monitoring more cost-effective than multiple site visits within one year
 - Chain-of-custody – esp. *fuel sold w/o obligation*
 - Robust mass balance of multi-feedstock plants
 - Feedstock lab analysis
 - Annual attest engagement of auditing firm, i.e., RFS
 - Protection of client confidential business information

Stakeholder Feedback (3)

- Recommend verification team consists of:
 - Truly unbiased third-party verifiers
 - Members with industry experience, minimum technical qualifications, professional certifications
 - Independent reviewer
- LCFS program requirements
 - Prevent fuel to feedstock recycling or double counting
 - Unique credit serial numbers
 - Require bonds for foreign fuel producers or importers
 - Prohibit use of palm oil products, except in UCO
 - Hold credit generators and importers responsible for invalid credits
 - Allow credit trading prior to verification vs. issue credits after verification
 - Harmonize verification with RFS and/or international programs

Comments/Questions?

Verification Program Overview

Why is Verification so Critical?

- LCFS is transforming the transportation fuels pool
 - Add program integrity and durability
 - Safeguard against fraud
- LCFS is establishing a robust and dynamic credit market
 - Add buyer confidence within LCFS credit market
 - Provide greater transparency for the credit market
- LCFS includes international fuel importers
 - Need for pathway carbon accounting and reporting accuracy
 - Provide reporting consistency among pathway recipients



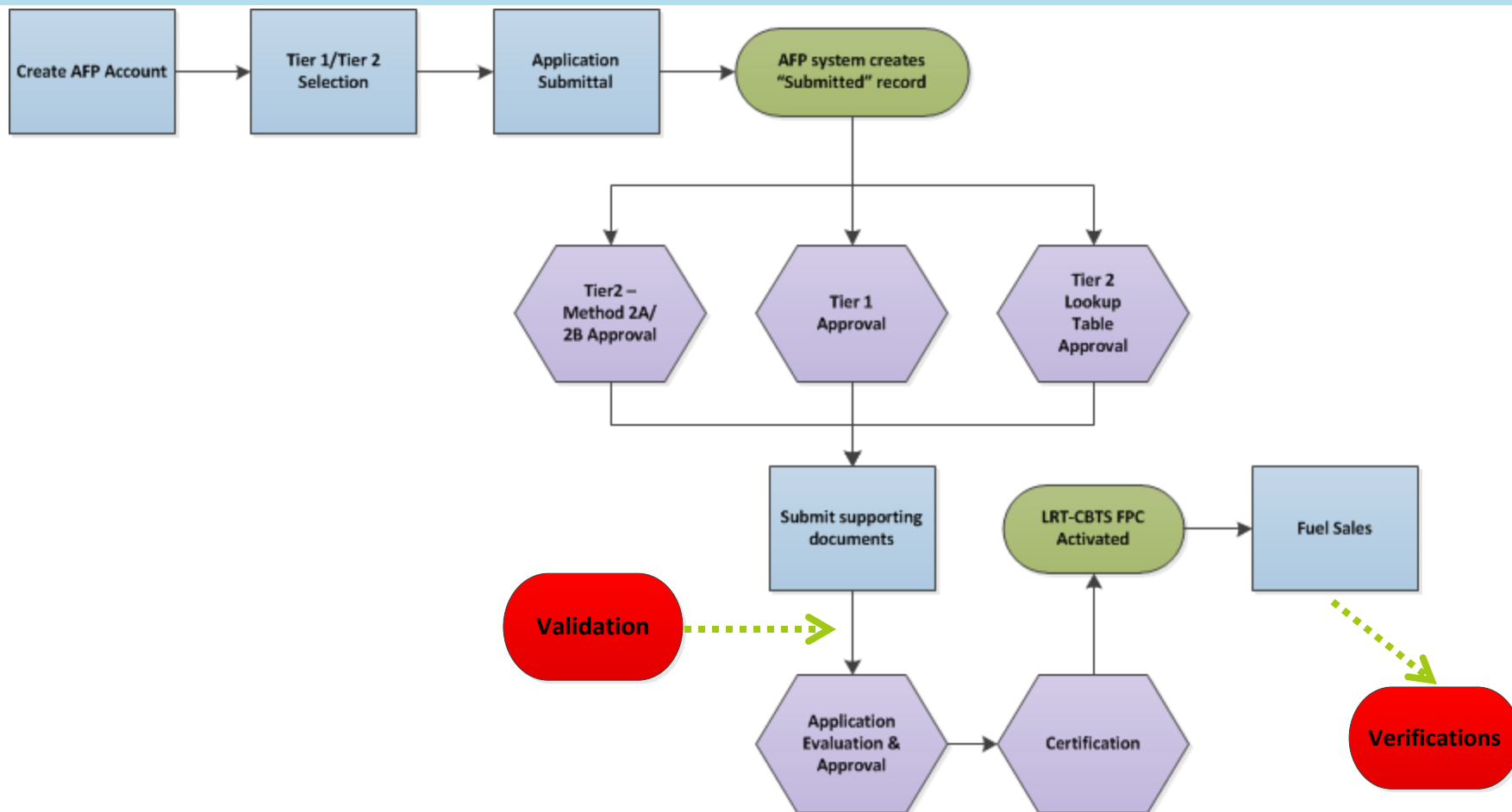
Parties Involved in LCFS Verifications

- **Parties Required to undergo LCFS Verifications**
 - All LCFS participants
- **Responsible Parties**
 - Fuel pathway holders
 - LRT-CBTS reporting parties
(inc. credit and deficit generators)
- **Verification Services Provided by**
 - Verifying body
 - Life cycle specialist
 - Fuel transactions specialist

Verification Program Applicability and Scope

- **All current LCFS fuels are subject to on-going**
 - Quarterly Fuel Pathway Verification
 - Annual Fuel Pathway Verification
 - Quarterly LRT-CBTS Transactions Verifications
- **All new LCFS fuel participants are subject to**
 - Fuel Pathway Validation
 - On-going requirements for current LCFS fuels post certification
- **CARBOB and ULSD Suppliers**
 - MRR Volume Data Verifications

Current LCFS Certification Process

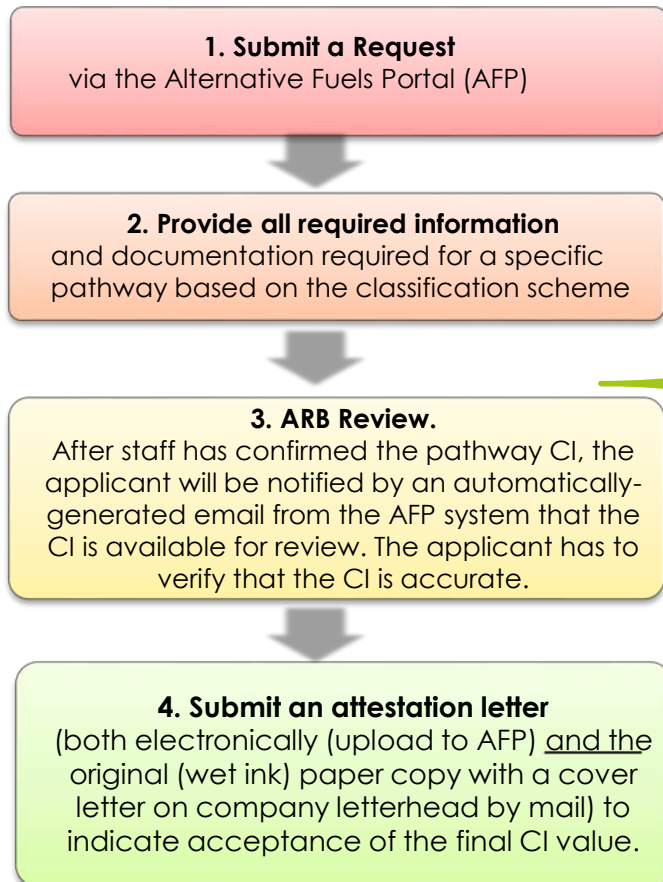


Fuel Pathway Validation (1)

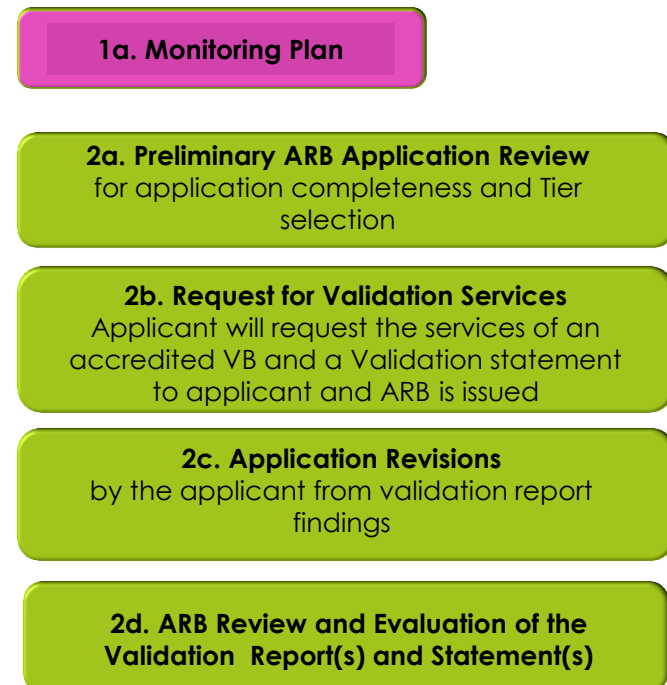
- **Responsible Party: Fuel Pathway CI Applicant**
 - Initial verification to support Fuel Pathway CI Certification
- **Validation Verification Scope**
 - Confirmation of Facility Geographic Coordinates
 - Verification of Process Flow Diagram and Materials Balance
 - Verification of Data Management System
 - Verification of Monitoring Plan & practices
 - Identification of High Risk Pathway Contributors

Fuel Pathway Validation (2)

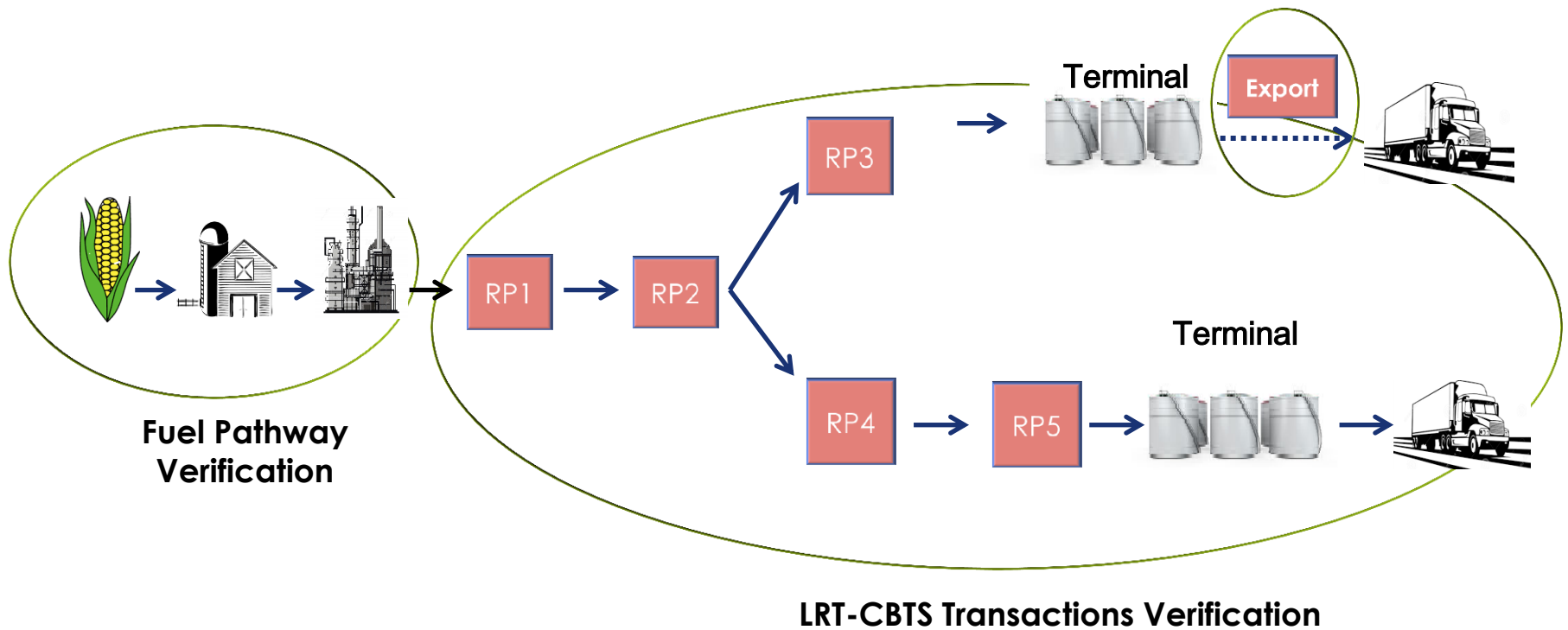
Current Application Process



Additions to the Process



Verification Program Overview



Fuel Pathway Verifications - Quarterly

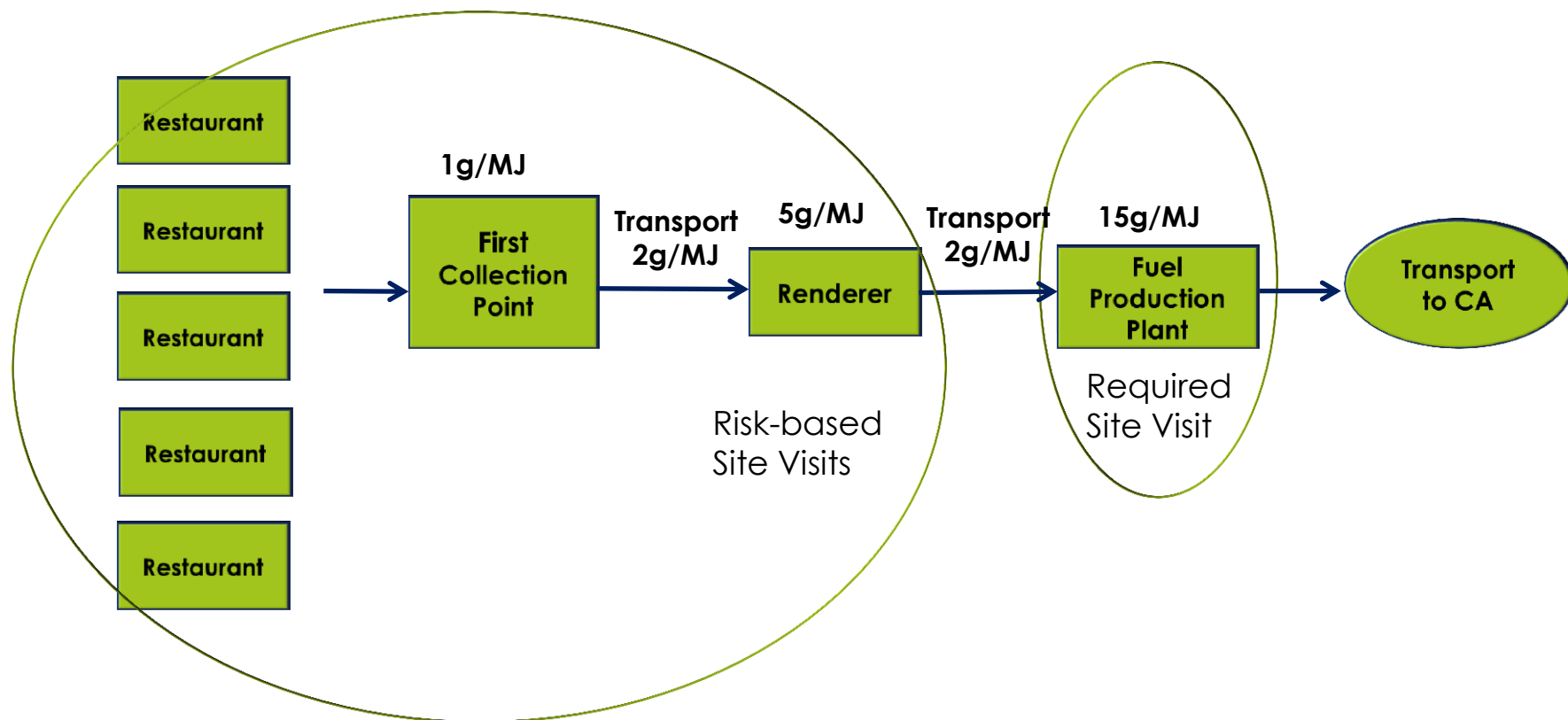
- **Responsible Party: Fuel Pathway CI Holder**
 - Quarterly verification to support fuel production and LRT-CBTS reporting volumes (Conformance Review)
- **Verification Scope**
 - Desk audit with risk-based site visits
 - Total fuel production volumes per facility
 - Total fuel production for CA use per FPC
 - Total feedstock purchase and processing per FPC
 - Feedstock compliance with definition
 - Mass balance of feedstock, finished fuel, and co-products (*as applicable*)
 - High risk pathway contributors
 - Fuel Transportation Mode (FTM) demonstration

Fuel Pathway Verification - Annual

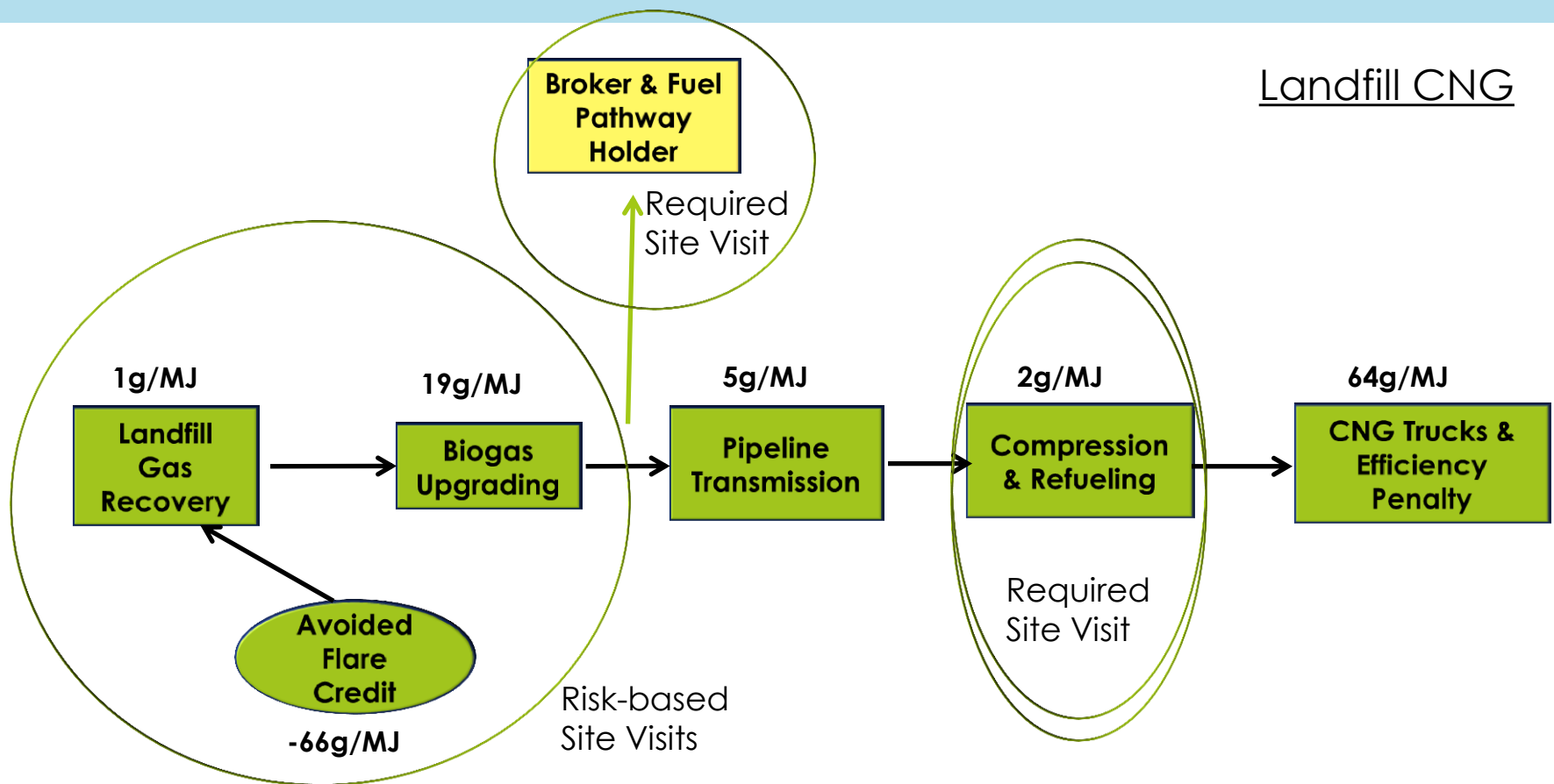
- **Responsible Party: Fuel Pathway CI Holder**
 - Annual verification to support certified CI value overtime
- **Verification Scope**
 - Desk audit
 - Site visit of Fuel Pathway Holder Facility
 - Representative sampling of CI inputs (feedstock, energy, finished fuel, co-products, transportation, etc.)
 - Information for Feedstock and co-product traceability
 - Feedstock/finished fuel sampling for chemical testing
 - Risk-based feedstock suppliers site visit
 - CI calculations using CA-GREET

Example#1: Fuel Pathway Verification - Annual

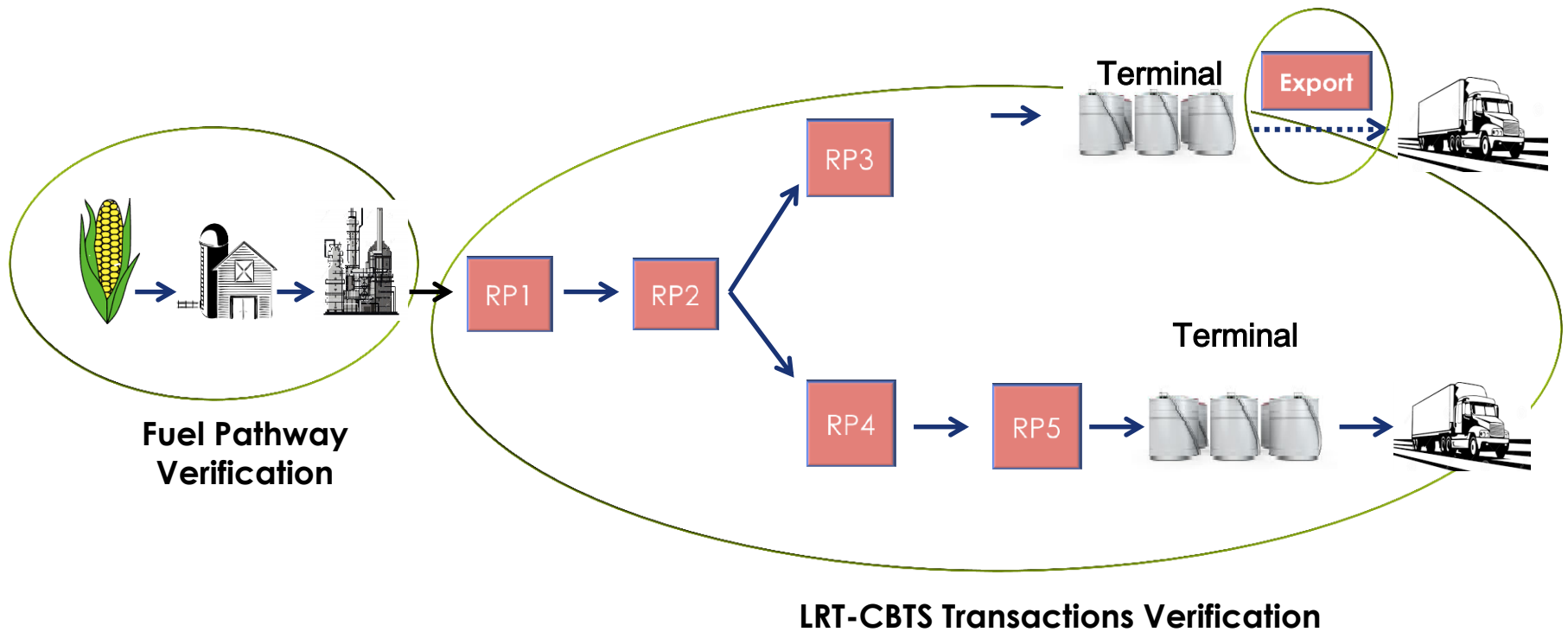
Used Cooking Oil Biodiesel



Example#2: Fuel Pathway Verification - Annual



Verification Program Overview



Transactions Verification

- **Responsible Party: Reporting Parties (Exporters)**
 - LRT-CBTS reported export volumes
 - Summary of credits/deficits generated by fuel prior to export
- **Responsible Party: Reporting Parties (CARBOB & ULSD suppliers)**
 - Volumes reported and verified in MRR
- **Responsible Party: Producers of CARBOB, gasoline, or diesel fuel**
 - Crude oil volume by marketable crude oil name

Example: Transactions Verification of CARBOB & ULSD Suppliers

CARBOB & ULSD Suppliers

Annual Verification of MRR Volumes
MRR §95121(d)(1)-(4)

Terminal



Subject to Verification:
Position Holders at the rack

Refinery



Subject to Verification:
Refiners that supply fuel within the bulk transfer system to entities not licensed by the BOE

Imports into CA

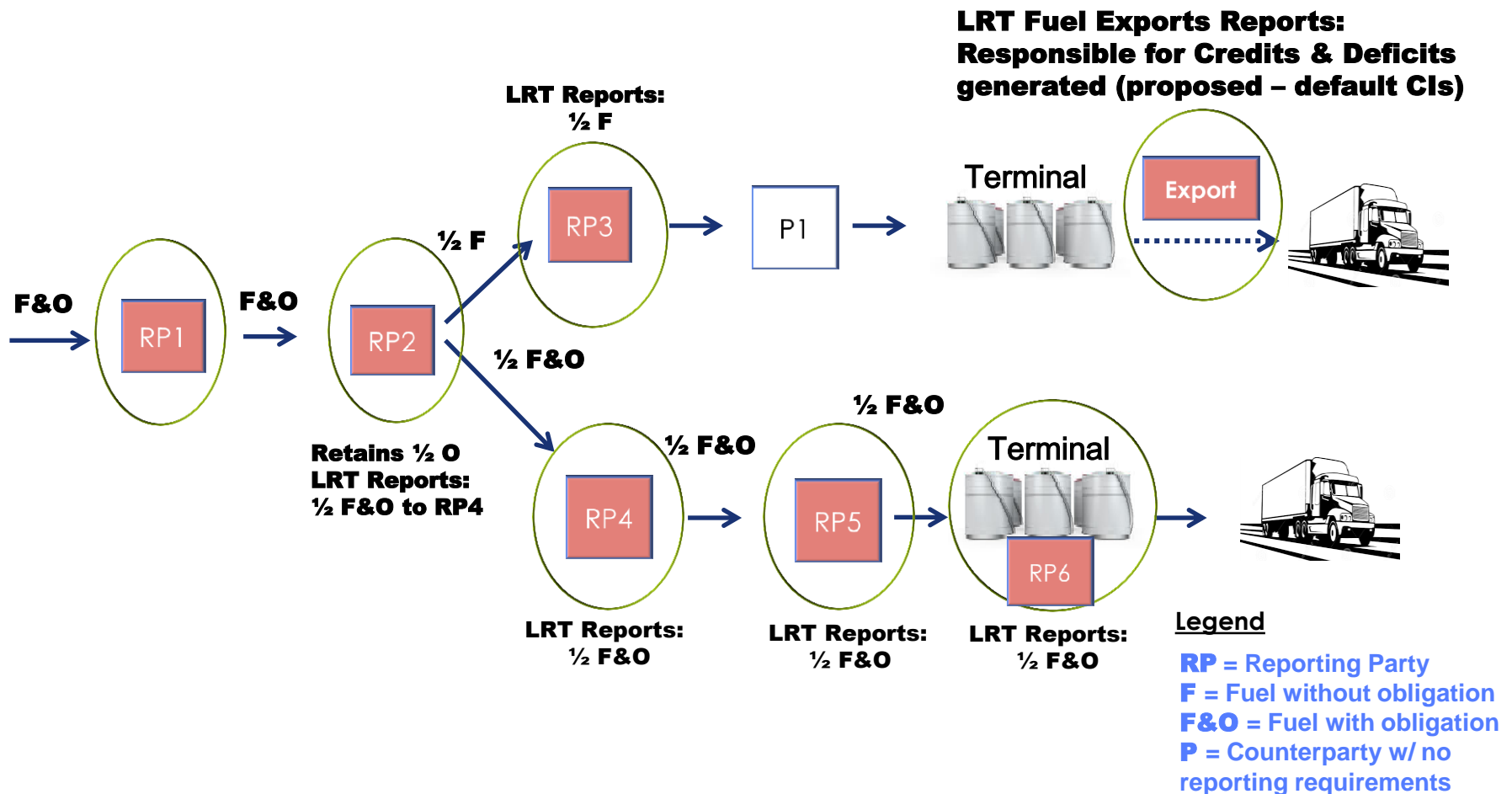


Subject to Verification:
Enterers delivering transportation fuel outside the bulk transfer/terminal system

LRT-CBTS Transactions Verification – Credit Generators

- **Responsible Party: Reporting Parties**
 - LRT-CBTS Transactions Review
 - Product Transfer Document Review
 - Contracts, sales/purchase invoices

Example: LRT-CBTS Transactions Verification - Credit Generators



Verification Outcomes

Verification Statements

- **Quarterly**

Positive – credits issued

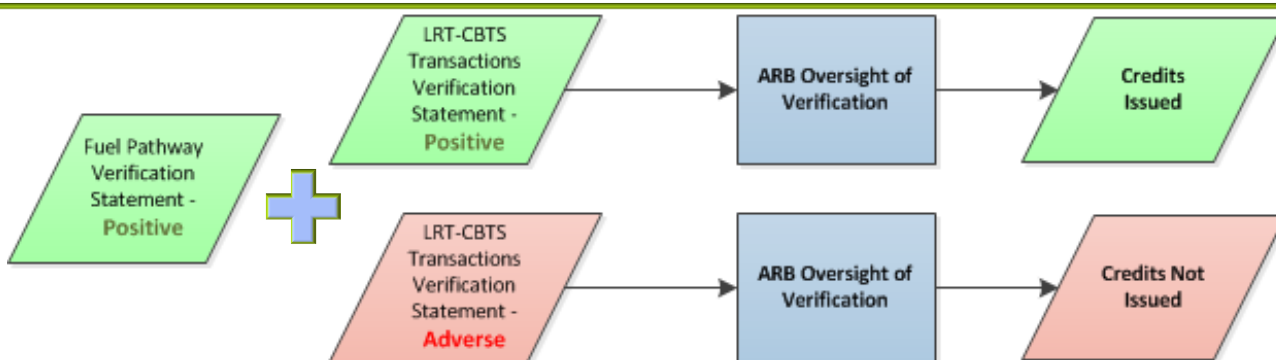
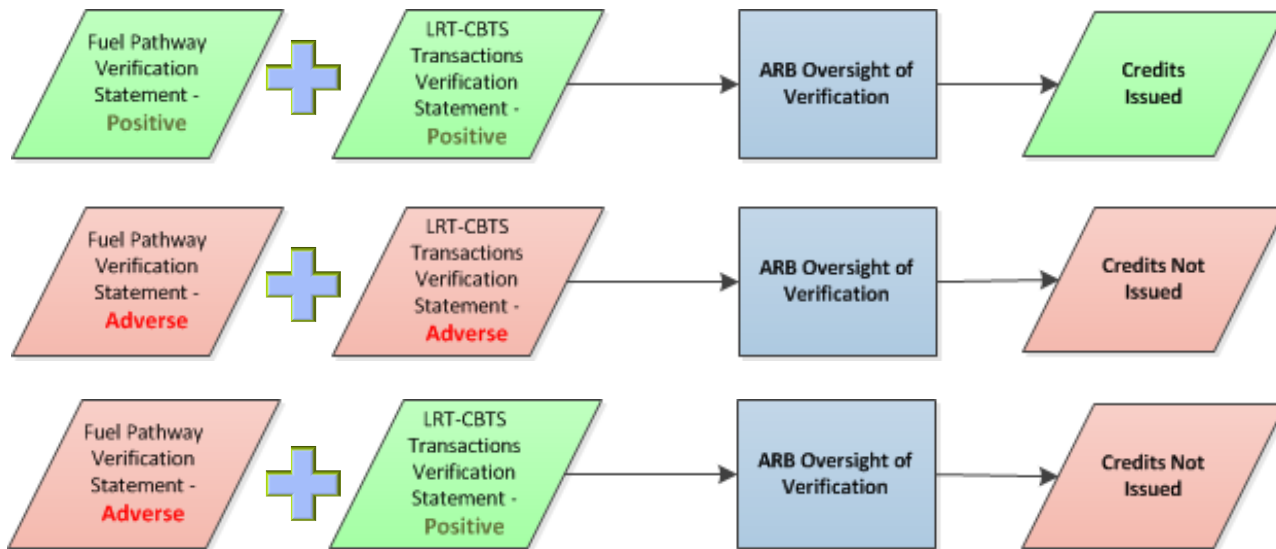
Adverse – no credits issued, until resolution

- **Annual**

Positive – continued ARB CI certification

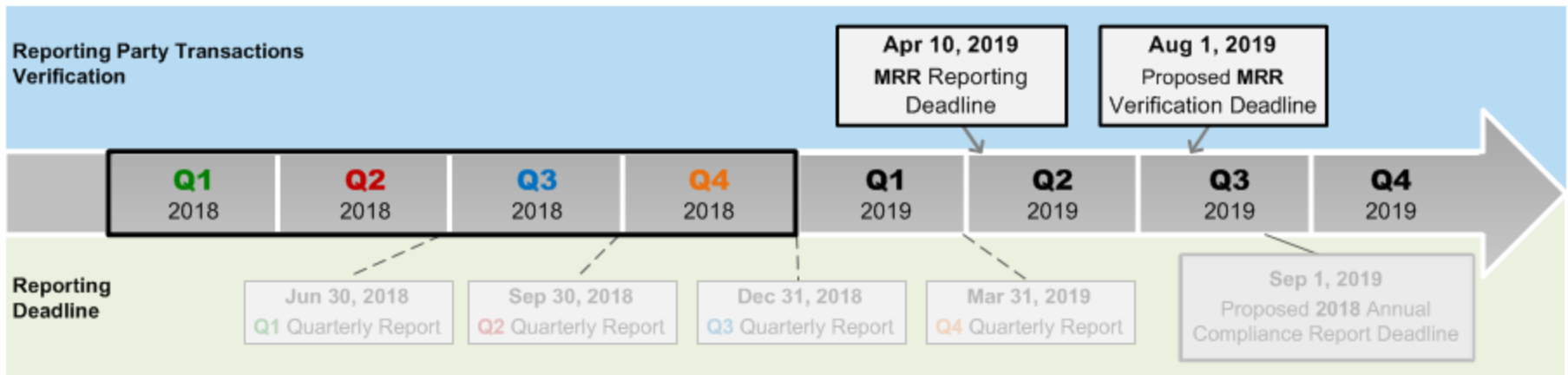
Adverse – ARB evaluation & determination of next steps

Quarterly Credits Issuance



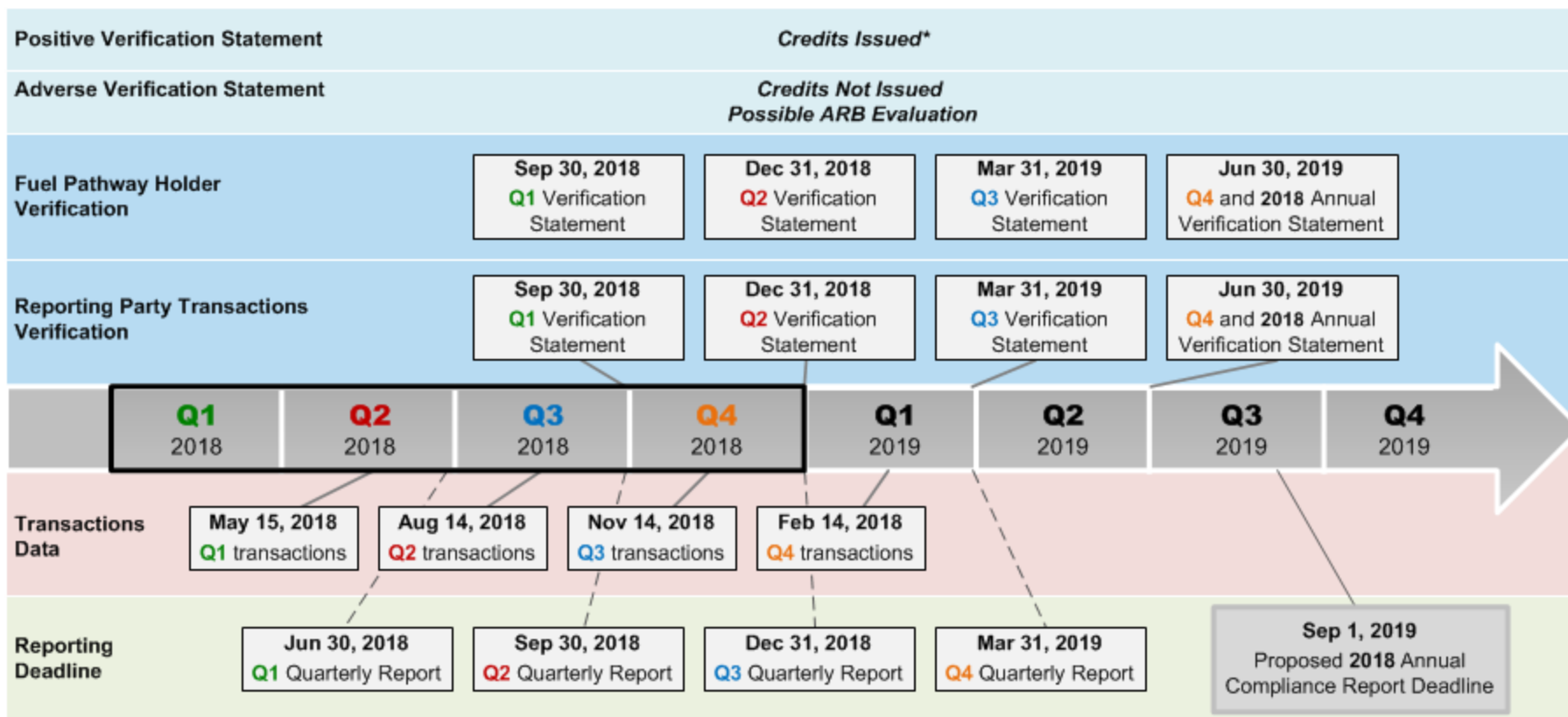
Reporting and Verification Schedule

CARBOB & ULSD Suppliers Reporting and Verification Timeline



Credit Generators

Reporting and Verification Timeline



**Both fuel pathway holder and transactions verification statements required before credits issued to reporting parties*

Next Round – Proposed Regulatory Amendments

Proposed Modifications to Existing Fuel Pathway Application Process

- **Current Process:**
 - Carbon Intensity Cap
 - Type of Feedstock, proportions if multi-feedstock facility
 - Fuel Facility Production Capacity
- **Additions to Application Process**
 - Description of High Risk Pathway Contributors
 - Monitoring Plan submitted by Pathway Applicant is incorporated by reference

High Risk Pathway Contributors → Elements of a life cycle that may significantly impact the final CI value.

Proposed Modifications to Existing Regulation – Reporting Requirements

- **Currently in LCFS:**
 - Reporting and Recordkeeping Requirements for LRT-CBTS reporting
- **Additions to Reporting Requirements**
 - High risk pathway contributors, including
 - Feedstock Traceability Requirements
 - Co-product Traceability Requirements
 - Finished Fuel Traceability Requirements
 - Uploading verifiable data to AFP and LRT-CBTS
 - Uploading Verification Statements to AFP and LRT-CBTS
 - Fuel Facility Quarterly and Annual Production Volume

Proposed Elements of CI Monitoring Plan

Purpose: Inform ARB development of Operating Conditions, basis for fuel pathway holder to monitor and report compliance (\leq CI), basis for verifiers to assess risk of misreporting and to review ongoing operations

- Process Flow Diagram, including feedstocks
- Production facility Piping and Instrumentation Diagram (meter locations)
- Methods used to measure, calculate, and monitor CI inputs
- Measurement accuracy assessment of CI inputs
- Plan to limit use of Fuel Pathway Code by fuel purchaser if CI is exceeded, regardless of verification timing

Comments/Questions?

Preliminary Draft Regulatory Language

Outline of Preliminary Draft Regulatory Language

- **§95498.** Requirements for Verification of Fuel Pathway Carbon Intensity and Fuel Transactions
- **§95499.** Requirements for Verification Services
- **§95500.** Accreditation Requirements for Verification Bodies, Lead Verifiers, and Specialist Verifiers
- **§95501.** Conflict of Interest Requirements for Verification Bodies and Verifiers

Section 95498 – Requirements for Verification of Fuel Pathway Carbon Intensity and Fuel Transactions

- Applicability
- Verification requirements
 - Fuel pathway holders
 - Quarterly verification
 - Annual verification
 - Reporting Party
 - Credit generators - Quarterly verification
 - Deficit generators - Annual verification
- Verification phase-in period

Section 95499 – Requirements for Verification Services

- Notice of Verification Services (NOVS)
- Validation of first time fuel pathways
- Verification plan – Based on responsible party information, including CI monitoring plan
- Credit generating fuel volume transactions reported in the LRT
- Site visits
- Sampling plan – Based on strategic analysis developed during document reviews and interviews to guide evident gathering
- Findings and verification statement
 - Positive – Reasonable assurance that certified CI not exceeded
 - Adverse – Insufficient assurance that certified CI not exceeded

Section 95500 - Accreditation Requirements for Verification Bodies, Lead Verifiers, and Specialist Verifiers

ARB Verifier Accreditation Program - Modeled Int'l Best Practice (1)

- Developed as part of 2007 MRR rulemaking
- Included in 2010 Cap-and-Trade Offsets Program
- Consistent with major requirements of ISO 14065:2013
- Eight years of experience implementing MRR verifier accreditation

ARB Verifier Accreditation Program - Modeled Int'l Best Practice (2)

- Be a legal entity that can be held accountable, maintain liability insurance
- Possess internal conflict of interest (COI) policy, mechanisms to monitor, and requirements to remove and control conflicts if they arise
- Form verification teams with appropriate skills (incl. specific competencies), identify team lead, take responsibility for subcontractor COI and work quality
- Maintain confidentiality
- Maintain record retention requirements

Accreditation Program

- ARB accredits third-party verifiers (individuals)
 - Must take general verification and specialist training, as applicable
 - May become accredited as general verifier, lead verifier, fuel lifecycle verifier, fuel transactions verifier
 - All verifiers must pass an exam
- ARB accredits third-party verification bodies
- Application discloses staffing plan, professional liability insurance, conflict of interest prevention policies, training policies, legal actions
 - Verification body takes responsibility for subcontractors
 - Subcontractors cannot perform independent review of verification report
 - \$4 million separate professional liability insurance - not general or umbrella
- Three year accreditation cycles
 - ARB conducts performance review for reaccreditation

Specialist Accreditations

- **Fuel Transactions Specialist Verifier**
 - at least two years of professional experience related to transactions, accounting, and contractual agreements
 - take an ARB fuel transaction verification training and pass exam
- **Fuel Life Cycle Specialist Verifier**
 - at least two years of professional experience related to developing life cycle greenhouse gas emission technical analyses for transportation fuels and experience related to the fuel technology
 - take an ARB fuel life cycle verification training for specific feedstock and fuel combinations and pass exam
- **Technical Expert**
 - Not an ARB accredited verifier but may be utilized in certain circumstances

Section 95501 – Conflict of Interest

Impartiality and Conflict of Interest

- Verification body/verifier self-interest can impact ability to maintain independence and objectivity and undermine public confidence in program environmental integrity:
 - Long term professional relationships, personal relationships
 - Financial interest
 - Client advocacy
 - Cannot verify own work
- Specified high conflict activities are assumed to impair impartiality and not allowed

Levels of Conflict of Interest

High COI 95501(b)	Medium COI 95501(d)	Low COI 95501(c)
<ul style="list-style-type: none"> • Sharing of staff between reporting party and Verification Body (VB) • Providing specified services within last 5 years <ul style="list-style-type: none"> — Fuel Pathway — Application consulting; — brokering LCFS credits; — IT systems services • Providing non-monetary incentive to secure a verification contract 	<ul style="list-style-type: none"> • When high or low COI does not exist • Personal or familial relationships between VB and reporting party • COI mitigation plan is required 	<ul style="list-style-type: none"> • No High-COI conditions exist AND • Any non-verification services provided within last 5 years < 20% of verification contract value • Verification services are provided within 6 calendar years, or following 3-year break • Non-ARB verifications with strict COI requirements

ARB Oversight of Verification (1)

- ARB is notified before verification services begin so that ARB can plan its oversight activities, incl. site visit surveillance
- ARB audits identified verifications and verification body management systems
- ARB data checks and compliance assistance outreach provides additional data quality assurance
- ARB maintains quality standards that all verification bodies must meet
- Verifier accreditation may be modified, suspended, or revoked if verifier is deemed to be non-compliant
- Option to voluntarily withdraw from program

ARB Oversight of Verification (2)

- Target > 10% of all verifications for oversight audits by ARB staff
 - All verification bodies are audited at least once per year
 - Most verifiers will be observed by ARB during a site visit
 - All include review of the verification plan, sampling plan (incl. risk assessment), data checks, verification report, and transparent documentation of reasonable assurance of no material misstatement
- Audits are chosen based on fuel type, risk of misreporting, verifier experience, and to ensure consistent quality across verifications

Comments/Questions?

Current Activities

Current Activities

- Facility Site Visits
- Feedstock Forensic Test Methods
- Economic Evaluation
- Environmental Analysis
- Verification and ARB Existing Enforcement Policy

Facility Site Visits and Feedstock Forensic Test Methods

- **Facility Site Visits**
 - Conduct site visits to fuel production facilities
 - Support internal verification audit protocols
 - Ascertain the typical business transaction documents required to confirm accurate CI value quantification
 - Evaluating standard data management practices of fuel producers
- **Feedstock Forensic Test Methods**
 - Evaluating need for analytical test methods to support verification audits

Economic Analysis

Non-verification amendments:

- Cost impacts expected to be minimal

Verification amendments:

- Covers validation, quarterly and annual verifications, verification body/individual verifier costs
- Evaluate impacts to responsible parties to verify
 - ~ 400 pathways
 - ~150 reporting parties
- Staff to conduct informal survey to solicit representative cost information

Environmental Analysis

- Comply with ARB's certified regulatory program under the California Environmental Quality Act
- Final Environmental Analysis for the LCFS and Alternative Diesel Fuels regulations certified Sep 25, 2015
- Proposed amendments do not involve any changes that result in new significant adverse environmental impacts or substantial increase in severity of previously analyzed environmental impacts

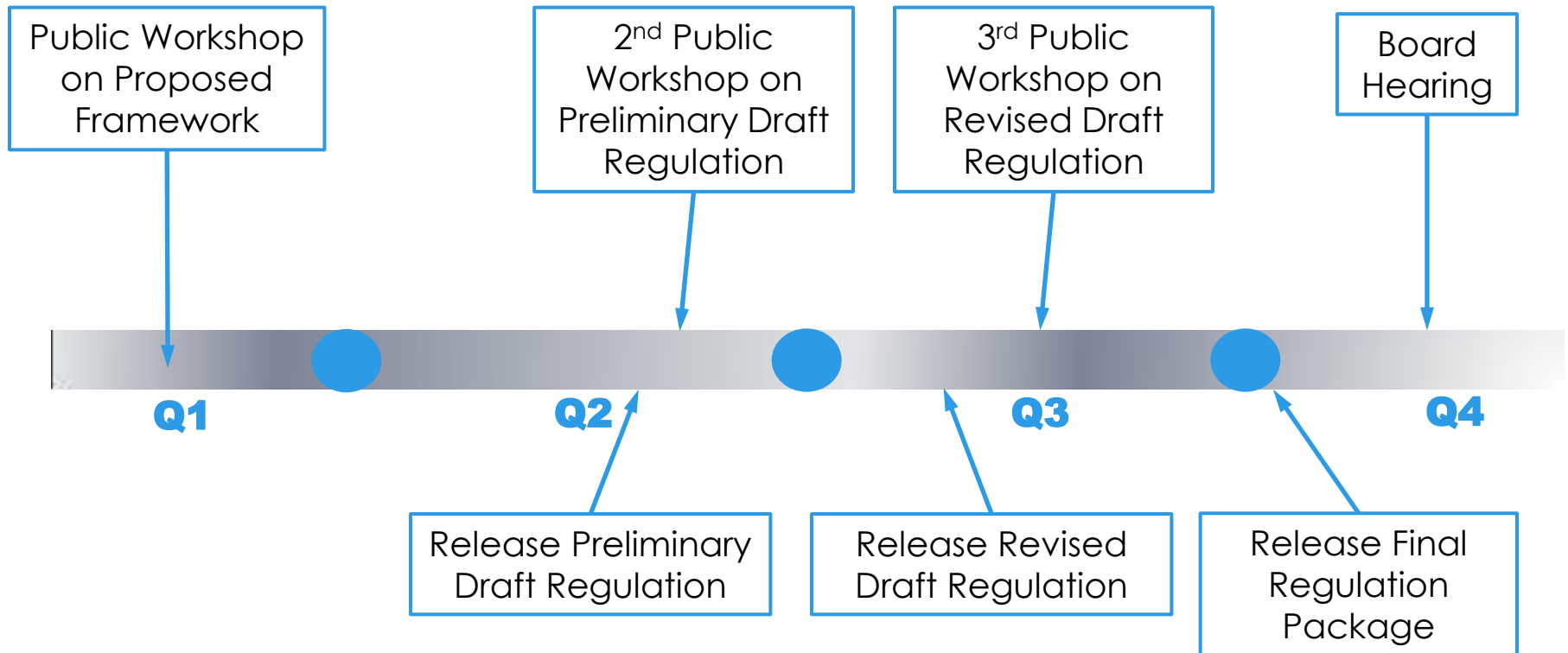
Verification and ARB Existing Enforcement Policy

- Verification reduces the risk that violations will go undetected, helping to shorten days in violation
- Corrections to submitted reports made during or after verification do not preclude enforcement
- ARB background and policy document describing enforcement process, incl. Health and Safety Code section 43024's eight factors
(<http://www.arb.ca.gov/enf/sb1402/policy.pdf>)

Comments/Questions?

Rulemaking Schedule

Rulemaking Timeline



2017 Verification Activities

- Interim validation and verification services are optional for responsible parties
- Grandfathered MRR verification bodies and individual verifiers may provide interim validation and verification services
- ARB to establish life cycle specialist accreditation process
- ARB conducts verification site visits
- ARB continues reviews of reported fuel transfers
- ARB continues to evaluate forensic testing

Next Steps

Next Steps

- Solicit feedback by June 16, 2016
- Review comments and evaluate information received
- Revise draft regulation
- Present revised draft regulation at next workshop
- Next workshop tentative date: July 14, 2016

Contact Information

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More Information

Presentation may be found at

http://www.arb.ca.gov/fuels/lcfs/lcfs_meetings/lcfs_meetings.htm

Please send feedback to Ursula Lai at

LCFSWorkshop@arb.ca.gov

Feedback requested by

June 16, 2016

Environmental Justice Advisory Committee

Questions?

THANK YOU